APPLICATION NO 10601386

August 24, 2004

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CLMPTO
CLAIMS 1-5 (CANCELLED)

6.   A method for validating the position of a word
line overlaying a trench capacitor, comprising the steps of:
    providing a wafer having at least one scribe line
        region and a memory cell region;
    forming a test key in the scribe line region and a
        plurality of memory cells in the memory cell
        region, wherein the test key comprises:
        a trench capacitor deposited in the scribe line
            region and has a buried plate;
        a rectangular word line deposited in the scribe
            line region and covers a portion of the
            trench capacitor;
        a first and second passing word line deposited
            above the trench capacitor;
        a first and second doping region respectively
            deposited between the rectangular word line
            and the first passing word line, and the

rectangular word line and the second passing
word line;

a first plug coupled to the first doping region;

a second plug coupled to the second doping region;
and

a third plug coupled to the buried plate;

measuring a first current between the first and third
plug resulting from applying a predetermined
voltage difference between the first and third
plug, applying a predetermined voltage level on
the rectangular word line and floating the second
plug, and a second current between the second and
third plug resulting from applying the
predetermined voltage difference between the
second and third plug, applying the predetermined
voltage level on the rectangular word line and
floating the first plug; and

validating the position of the rectangular word line by
the measured first and second currents.

7.   The method as claimed in claim 6, wherein the test
key further comprises a fourth plug coupled to the
rectangular word line.

8.   The method as claimed in claim 6 further
comprising the step of:

validating the position of rectangular word lines in
the memory cells by the validation results of the
rectangular word lines in the test key.

9.   The method as claimed in claim 6, wherein widths of the first and second passing word lines are substantially the same, and substantially smaller than a width of the rectangular word line.

10.   The method as claimed in claim 6, wherein a width of the rectangular word line is approximately 0.6μm.